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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/319,851	06/11/1999	TOSHIHIKO KITAZAWA	450114-4609	3665

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EXAMINER	
HO, CHUONG T	
ART UNIT	**PAPER NUMBER**
2664	9

DATE MAILED: 04/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/319,851	KITAZAWA ET AL.
	Examiner	**Art Unit**
	Chuong Ho	2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 January 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *11-15* is/are allowed.

6)☒ Claim(s) *1-10,16-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

1. The amendment filed 01/21/04 have been entered and made of record.

2. Applicant's amendment filed 01/21/04 with respect to claims 1-39 have been considered but are moot in view of the new ground(s) of rejection.

3. Claims 1-39 are pending.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-5, 6-10, 16-20, 21-25, 26-30, 31-35, 36-37, 38-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hang (U.S.Patent No. 5,115,309) in view of Matsuura et al. (U.S.Patent No. 5,956,426).

In the claim 1, see figure 1, Hang discloses a plurality of encoding (video conder 1, 2.....N) means for encoding program data respective including video data, output resultant encoded streams (data, stream 1, 2, N), generating statistical multiplexing, and outputting the generated data one the same transmission channels (112) as the encoded streams are transmitted (see figure 1, see col. 2, lines 21-23, dynamically allocating the available bandwidth (target encoding rates) based on an indication of sub-image complexity as determined from the the average quantization step size and the average number of bits produced per pel employed by each video coder for the image contained in the previous frame) (see col. 2, lines 45-50);

Whereby conducting control using statistical multiplexing includes computing target encoding rates based on encoding difficulty per unit time of at least one program's worth of data (see figure 1, see col. 2, lines 21-23, dynamically allocating the available bandwidth (target encoding rates) based on an indication of sub-image complexity as determined from the the average quantization step size and the average number of bits produced per pel employed by each video coder for the image contained in the previous frame).

However, Hang is silent to disclosing encoding control means for acquiring the statistical multiplexing data of each encoding means from output of the multiplexing means, and conducting control using statistical multiplexing on each encoding means on the basis of the statistical multiplexing data.

Matsuura et al., see figure 4, discloses a multi-coding apparatus comprises a plurality of encoders 1a to 1n for coding input data at variable rates, a bit allocator 4 supplied with estimated amounts of codes output from the respective encoders 1a to 1n, and maximum transmission rate controller 3, (encoding controller) for supplying a whole allocated amount of bits to the bit allocator 4 on the basis of the amount of codes output from the respective encoders 1a to 1n (see abstract); comprising:

Encoding control means for acquiring the statistical multiplexing data of each encoding means from output of the multiplexing means, and conducting control using statistical multiplexing on each encoding means on the basis of the statistical multiplexing data (see figure 4, see abstract, col. 5, lines 25-50, col. 4, lines 15-40, col. 6, lines 5-10);

Multiplexing (multiplexer 2) means for acquiring the encoding streams and the statistical multiplexing data from the respective encoding (1a to 1n) means via the transmission channels, and multiplexing and outputting them (see figure 4, col. 5, lines 25-50).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Hang with the teaching of Matsuura to provide the encoding control in order to estimate amount of codes from variable encoders 1a to 1n. Therefore, the combined system would have been enable the statistical multiplexing system for controlling the target bit rates Rate 1 to Rate n.

6. In the claims 2, 7, Hang discloses the encoding means forms the encoded stream and the statistical multiplexing data respectively as packets and output the packets (see figure 1, see col. 2, lines 21-23, dynamically allocating the available bandwidth (target encoding rates) based on an indication of sub-image complexity as determined from the the average quantization step size and the average number of bits produced per pel employed by each video coder for the image contained in the previous frame).

7. In the claims 3, 8, 17, 18, 19, 22, 23, 24, 27, 29, 32, 34, Matsuura et al. discloses the multiplexing (multiplexer 2) means includes statistical multiplexing data removing (extracting) means for removing the statistical multiplexing data out of data obtained by multiplexing the encoded streams and the statistical multiplexing data supplied from the respective encoding (1a to 1n) means, and outputting resultant data to a transmission channel of a subsequent state, and

the multiplexing means output the data including the statistical multiplexing data to the encoding control (max transmission rate controller 3) means without passing through the statistical multiplexing data removing means (see figure 4, col. 5, lines 25-50, col. 1, lines 15-45).

8. In the claim 4, 9, 28, 33, Matsuura et al. discloses the packet of the statistical multiplexing data includes identification data for identifying from which encoding means the statistical multiplexing data is supplied (see col. 1, lines 15-45, col. 5, lines 6-23).

9. In the claims 5, 10, Matsuura et al. discloses the packet of the statistical multiplexing data further data for rejection detection used for detecting whether packet rejection is present or not (see col. 1, lines 15-45, col. 5, lines 6-23).

10. In the claim 6, see figure 1, Hang discloses a plurality of encoding (video conder 1, 2.....N) means for encoding program data respective including video data, output resultant encoded streams (data, stream 1, 2, N), generating statistical multiplexing, and outputting the generated data one the same transmission channels (112) as the encoded streams are transmitted (see figure 1, see col. 2, lines 21-23, dynamically allocating the available bandwidth (target encoding rates) based on an indication of sub-image complexity as determined from the the average quantization step size and the average number of bits produced per pel employed by each video coder for the image contained in the previous frame) (see col. 2, lines 45-50);

Whereby conducting control using statistical multiplexing includes computing target encoding rates based on encoding difficulty per unit time of at least one

program's worth of data (see figure 1, see col. 2, lines 21-23, dynamically allocating the available bandwidth (target encoding rates) based on an indication of sub-image complexity as determined from the the average quantization step size and the average number of bits produced per pel employed by each video coder for the image contained in the previous frame).

However, Hang is silent to disclosing encoding control means for acquiring the statistical multiplexing data of each encoding means from output of the multiplexing means, and conducting control using statistical multiplexing on each encoding means on the basis of the statistical multiplexing data.

Matsuura et al., see figure 4, discloses a multi-coding apparatus comprises a plurality of encoders 1a to 1n for coding input data at variable rates, a bit allocator 4 supplied with estimated amounts of codes output from the respective encoders 1a to 1n, and maximum transmission rate controller 3, (encoding controller) for supplying a whole allocated amount of bits to the bit allocator 4 on the basis of the amount of codes output from the respective encoders 1a to 1n (see abstract); comprising:

Encoding control means for acquiring the statistical multiplexing data of each encoding means from output of the multiplexing means, and conducting control using statistical multiplexing on each encoding means on the basis of the statistical multiplexing data (see figure 4, see abstract, col. 5, lines 25-50, col. 4, lines 15-40, col. 6, lines 5-10);

Multiplexing (multiplexer 2) means for acquiring the encoding streams and the statistical multiplexing data from the respective encoding (1a to 1n) means via

the transmission channels, and multiplexing and outputting them (see figure 4, col. 5, lines 25-50).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Hang with the teaching of Matsuura to provide the encoding control in order to estimate amount of codes from variable encoders 1a to 1n. Therefore, the combined system would have been enable the statistical multiplexing system for controlling the target bit rates Rate 1 to Rate n.

11. In the claim 16, see figure 1, Hang discloses a plurality of encoding (video conder 1, 2.....N) means for encoding program data respective including video data, output resultant encoded streams (data, stream 1, 2, N), generating statistical multiplexing, and outputting the generated data one the same transmission channels (112) as the encoded streams are transmitted (see figure 1, see col. 2, lines 21-23, dynamically allocating the available bandwidth (target encoding rates) based on an indication of sub-image complexity as determined from the the average quantization step size and the average number of bits produced per pel employed by each video coder for the image contained in the previous frame) (see col. 2, lines 45-50);

Whereby conducting control using statistical multiplexing includes computing target encoding rates based on encoding difficulty per unit time of at least one program's worth of data (see figure 1, see col. 2, lines 21-23, dynamically allocating the available bandwidth (target encoding rates) based on an indication of sub-image complexity as determined from the the average quantization step

size and the average number of bits produced per pel employed by each video coder for the image contained in the previous frame).

However, Hang is silent to disclosing encoding control means for acquiring the statistical multiplexing data of each encoding means from output of the multiplexing means, and conducting control using statistical multiplexing on each encoding means on the basis of the statistical multiplexing data.

Matsuura et al., see figure 4, discloses a multi-coding apparatus comprises a plurality of encoders 1a to 1n for coding input data at variable rates, a bit allocator 4 supplied with estimated amounts of codes output from the respective encoders 1a to 1n, and maximum transmission rate controller 3, (encoding controller) for supplying a whole allocated amount of bits to the bit allocator 4 on the basis of the amount of codes output from the respective encoders 1a to 1n (see abstract); comprising:

Encoding control means for acquiring the statistical multiplexing data of each encoding means from output of the multiplexing means, and conducting control using statistical multiplexing on each encoding means on the basis of the statistical multiplexing data (see figure 4, see abstract, col. 5, lines 25-50, col. 4, lines 15-40, col. 6, lines 5-10);

Multiplexing (multiplexer 2) means for acquiring the encoding streams and the statistical multiplexing data from the respective encoding (1a to 1n) means via the transmission channels, and multiplexing and outputting them (see figure 4, col. 5, lines 25-50).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Hang with the teaching of Matsuura to provide the encoding control in order to estimate amount of codes from variable encoders 1a to 1n. Therefore, the combined system would have been enable the statistical multiplexing system for controlling the target bit rates Rate 1 to Rate n.

12. In the claims 20, 25, 30, 35, 37, 39, Hang discloses the encoding control means computes temporary encoding rates respectively corresponding to the plurality of channels from the plurality of pieces of encoding difficulty information transmitted by the private transport stream packets, and computes the target encoding rates from the temporary encoding rates so as to make a sum a total of the temporary encoding rates equal to or less than a transmission rate (see figure 1, see col. 2, lines 21-23, dynamically allocating the available bandwidth (target encoding rates) based on an indication of sub-image complexity as determined from the the average quantization step size and the average number of bits produced per pel employed by each video coder for the image contained in the previous frame).

13. In the claim 21, see figure 1, Hang discloses a plurality of encoding (video conder 1, 2.....N) means for encoding program data respective including video data, output resultant encoded streams (data, stream 1, 2, N), generating statistical multiplexing, and outputting the generated data one the same transmission channels (112) as the encoded streams are transmitted (see figure 1, see col. 2, lines 21-23, dynamically allocating the available bandwidth (target

encoding rates) based on an indication of sub-image complexity as determined from the the average quantization step size and the average number of bits produced per pel employed by each video coder for the image contained in the previous frame) (see col. 2, lines 45-50);

Whereby conducting control using statistical multiplexing includes computing target encoding rates based on encoding difficulty per unit time of at least one program's worth of data (see figure 1, see col. 2, lines 21-23, dynamically allocating the available bandwidth (target encoding rates) based on an indication of sub-image complexity as determined from the the average quantization step size and the average number of bits produced per pel employed by each video coder for the image contained in the previous frame).

However, Hang is silent to disclosing encoding control means for acquiring the statistical multiplexing data of each encoding means from output of the multiplexing means, and conducting control using statistical multiplexing on each encoding means on the basis of the statistical multiplexing data.

Matsuura et al., see figure 4, discloses a multi-coding apparatus comprises a plurality of encoders 1a to 1n for coding input data at variable rates, a bit allocator 4 supplied with estimated amounts of codes output from the respective encoders 1a to 1n, and maximum transmission rate controller 3, (encoding controller) for supplying a whole allocated amount of bits to the bit allocator 4 on the basis of the amount of codes output from the respective encoders 1a to 1n (see abstract); comprising:

Encoding control means for acquiring the statistical multiplexing data of each encoding means from output of the multiplexing means, and conducting control using statistical multiplexing on each encoding means on the basis of the statistical multiplexing data (see figure 4, see abstract, col. 5, lines 25-50, col. 4, lines 15-40, col. 6, lines 5-10);

Multiplexing (multiplexer 2) means for acquiring the encoding streams and the statistical multiplexing data from the respective encoding (1a to 1n) means via the transmission channels, and multiplexing and outputting them (see figure 4, col. 5, lines 25-50).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Hang with the teaching of Matsuura to provide the encoding control in order to estimate amount of codes from variable encoders 1a to 1n. Therefore, the combined system would have been enable the statistical multiplexing system for controlling the target bit rates Rate 1 to Rate n.

14. In the claim 26, see figure 1, Hang discloses a plurality of encoding (video conder 1, 2.....N) means for encoding program data respective including video data, output resultant encoded streams (data, stream 1, 2, N), generating statistical multiplexing, and outputting the generated data one the same transmission channels (112) as the encoded streams are transmitted (see figure 1, see col. 2, lines 21-23, dynamically allocating the available bandwidth (target encoding rates) based on an indication of sub-image complexity as determined from the the average quantization step size and the average number of bits

produced per pel employed by each video coder for the image contained in the previous frame) (see col. 2, lines 45-50);

Whereby conducting control using statistical multiplexing includes computing target encoding rates based on encoding difficulty per unit time of at least one program's worth of data (see figure 1, see col. 2, lines 21-23, dynamically allocating the available bandwidth (target encoding rates) based on an indication of sub-image complexity as determined from the the average quantization step size and the average number of bits produced per pel employed by each video coder for the image contained in the previous frame).

However, Hang is silent to disclosing encoding control means for acquiring the statistical multiplexing data of each encoding means from output of the multiplexing means, and conducting control using statistical multiplexing on each encoding means on the basis of the statistical multiplexing data.

Matsuura et al., see figure 4, discloses a multi-coding apparatus comprises a plurality of encoders 1a to 1n for coding input data at variable rates, a bit allocator 4 supplied with estimated amounts of codes output from the respective encoders 1a to 1n, and maximum transmission rate controller 3, (encoding controller) for supplying a whole allocated amount of bits to the bit allocator 4 on the basis of the amount of codes output from the respective encoders 1a to 1n (see abstract); comprising:

Encoding control means for acquiring the statistical multiplexing data of each encoding means from output of the multiplexing means, and conducting control using statistical multiplexing on each encoding means on the basis of the

statistical multiplexing data (see figure 4, see abstract, col. 5, lines 25-50, col. 4, lines 15-40, col. 6, lines 5-10);

Multiplexing (multiplexer 2) means for acquiring the encoding streams and the statistical multiplexing data from the respective encoding (1a to 1n) means via the transmission channels, and multiplexing and outputting them (see figure 4, col. 5, lines 25-50).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Hang with the teaching of Matsuura to provide the encoding control in order to estimate amount of codes from variable encoders 1a to 1n. Therefore, the combined system would have been enable the statistical multiplexing system for controlling the target bit rates Rate 1 to Rate n.

15. In the claim 31, see figure 1, Hang discloses a plurality of encoding (video conder 1, 2.....N) means for encoding program data respective including video data, output resultant encoded streams (data, stream 1, 2, N), generating statistical multiplexing, and outputting the generated data one the same transmission channels (112) as the encoded streams are transmitted (see figure 1, see col. 2, lines 21-23, dynamically allocating the available bandwidth (target encoding rates) based on an indication of sub-image complexity as determined from the the average quantization step size and the average number of bits produced per pel employed by each video coder for the image contained in the previous frame) (see col. 2, lines 45-50);

Whereby conducting control using statistical multiplexing includes computing target encoding rates based on encoding difficulty per unit time of at least one

program's worth of data (see figure 1, see col. 2, lines 21-23, dynamically allocating the available bandwidth (target encoding rates) based on an indication of sub-image complexity as determined from the the average quantization step size and the average number of bits produced per pel employed by each video coder for the image contained in the previous frame).

However, Hang is silent to disclosing encoding control means for acquiring the statistical multiplexing data of each encoding means from output of the multiplexing means, and conducting control using statistical multiplexing on each encoding means on the basis of the statistical multiplexing data.

Matsuura et al., see figure 4, discloses a multi-coding apparatus comprises a plurality of encoders 1a to 1n for coding input data at variable rates, a bit allocator 4 supplied with estimated amounts of codes output from the respective encoders 1a to 1n, and maximum transmission rate controller 3, (encoding controller) for supplying a whole allocated amount of bits to the bit allocator 4 on the basis of the amount of codes output from the respective encoders 1a to 1n (see abstract); comprising:

Encoding control means for acquiring the statistical multiplexing data of each encoding means from output of the multiplexing means, and conducting control using statistical multiplexing on each encoding means on the basis of the statistical multiplexing data (see figure 4, see abstract, col. 5, lines 25-50, col. 4, lines 15-40, col. 6, lines 5-10);

Multiplexing (multiplexer 2) means for acquiring the encoding streams and the statistical multiplexing data from the respective encoding (1a to 1n) means via

the transmission channels, and multiplexing and outputting them (see figure 4, col. 5, lines 25-50).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Hang with the teaching of Matsuura to provide the encoding control in order to estimate amount of codes from variable encoders 1a to 1n. Therefore, the combined system would have been enable the statistical multiplexing system for controlling the target bit rates Rate 1 to Rate n.

16. In the claim 36, see figure 1, Hang discloses a plurality of encoding (video conder 1, 2.....N) means for encoding program data respective including video data, output resultant encoded streams (data, stream 1, 2, N), generating statistical multiplexing, and outputting the generated data one the same transmission channels (112) as the encoded streams are transmitted (see figure 1, see col. 2, lines 21-23, dynamically allocating the available bandwidth (target encoding rates) based on an indication of sub-image complexity as determined from the the average quantization step size and the average number of bits produced per pel employed by each video coder for the image contained in the previous frame) (see col. 2, lines 45-50);

Whereby conducting control using statistical multiplexing includes computing target encoding rates based on encoding difficulty per unit time of at least one program's worth of data (see figure 1, see col. 2, lines 21-23, dynamically allocating the available bandwidth (target encoding rates) based on an indication of sub-image complexity as determined from the the average quantization step

size and the average number of bits produced per pel employed by each video coder for the image contained in the previous frame).

However, Hang is silent to disclosing encoding control means for acquiring the statistical multiplexing data of each encoding means from output of the multiplexing means, and conducting control using statistical multiplexing on each encoding means on the basis of the statistical multiplexing data.

Matsuura et al., see figure 4, discloses a multi-coding apparatus comprises a plurality of encoders 1a to 1n for coding input data at variable rates, a bit allocator 4 supplied with estimated amounts of codes output from the respective encoders 1a to 1n, and maximum transmission rate controller 3, (encoding controller) for supplying a whole allocated amount of bits to the bit allocator 4 on the basis of the amount of codes output from the respective encoders 1a to 1n (see abstract); comprising:

Encoding control means for acquiring the statistical multiplexing data of each encoding means from output of the multiplexing means, and conducting control using statistical multiplexing on each encoding means on the basis of the statistical multiplexing data (see figure 4, see abstract, col. 5, lines 25-50, col. 4, lines 15-40, col. 6, lines 5-10);

Multiplexing (multiplexer 2) means for acquiring the encoding streams and the statistical multiplexing data from the respective encoding (1a to 1n) means via the transmission channels, and multiplexing and outputting them (see figure 4, col. 5, lines 25-50).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Hang with the teaching of Matsuura to provide the encoding control in order to estimate amount of codes from variable encoders 1a to 1n. Therefore, the combined system would have been enable the statistical multiplexing system for controlling the target bit rates Rate 1 to Rate n.

17. In the claim 38, see figure 1, Hang discloses a plurality of encoding (video conder 1, 2.....N) means for encoding program data respective including video data, output resultant encoded streams (data, stream 1, 2, N), generating statistical multiplexing, and outputting the generated data one the same transmission channels (112) as the encoded streams are transmitted (see figure 1, see col. 2, lines 21-23, dynamically allocating the available bandwidth (target encoding rates) based on an indication of sub-image complexity as determined from the the average quantization step size and the average number of bits produced per pel employed by each video coder for the image contained in the previous frame) (see col. 2, lines 45-50);

Whereby conducting control using statistical multiplexing includes computing target encoding rates based on encoding difficulty per unit time of at least one program's worth of data (see figure 1, see col. 2, lines 21-23, dynamically allocating the available bandwidth (target encoding rates) based on an indication of sub-image complexity as determined from the the average quantization step size and the average number of bits produced per pel employed by each video coder for the image contained in the previous frame).

However, Hang is silent to disclosing encoding control means for acquiring the statistical multiplexing data of each encoding means from output of the multiplexing means, and conducting control using statistical multiplexing on each encoding means on the basis of the statistical multiplexing data.

Matsuura et al., see figure 4, discloses a multi-coding apparatus comprises a plurality of encoders 1a to 1n for coding input data at variable rates, a bit allocator 4 supplied with estimated amounts of codes output from the respective encoders 1a to 1n, and maximum transmission rate controller 3, (encoding controller) for supplying a whole allocated amount of bits to the bit allocator 4 on the basis of the amount of codes output from the respective encoders 1a to 1n (see abstract); comprising:

Encoding control means for acquiring the statistical multiplexing data of each encoding means from output of the multiplexing means, and conducting control using statistical multiplexing on each encoding means on the basis of the statistical multiplexing data (see figure 4, see abstract, col. 5, lines 25-50, col. 4, lines 15-40, col. 6, lines 5-10);

Multiplexing (multiplexer 2) means for acquiring the encoding streams and the statistical multiplexing data from the respective encoding (1a to 1n) means via the transmission channels, and multiplexing and outputting them (see figure 4, col. 5, lines 25-50).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Hang with the teaching of Matsuura to provide the encoding control in order to estimate amount of codes from variable

encoders 1a to 1n. Therefore, the combined system would have been enable the statistical multiplexing system for controlling the target bit rates Rate 1 to Rate n.

Allowable Subject Matter

18. Claims 11-13, 14-15 are allowed.

19. The following is an examiner's statement of reasons for allowance: the prior art of record (5115309, 5956426, 6522672, 6487220, 5708664) does not appear to teach or render obvious the claimed limitations in combination with the specific added limitations, as recited from independent claims 11, 14, "conducting multiplexing processing on the encoded streams and the statistical multiplexing data at a first rate greater than a data transmission rate on a transmission channel of a subsequent state, outputting first data including the statistical multiplexing data, conducting multiplexing processing on data obtained by removing the statistical multiplexing data from the data outputted from the respective encoding means, at a second rate equal to a data transmission rate on the transmission channel of the subsequent state, and outputting second data which does not include the statistical multiplexing data to the transmission channel of the subsequent stage.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.**

See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuong Ho whose telephone number is (703) 306-4529. The examiner can normally be reached on 8:00AM to 4:00PM.

22. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chuong Ho
Examiner
Art Unit 2664

04/02/04

WELLINGTON CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600